

REMARKS

Claims 21, 23, 25, 27, 29-36, 39-43 were pending in the application, with Claims 21, 40 and 41 being independent. Claims 21, 23, 25, 27, 29-36 and 40-43 have been canceled without prejudice. Claims 44-49 are newly added. Upon entry of these amendments, Claims 44-49 will be pending and under active consideration with Claim 44 being independent.

Applicants respectfully request entry of the amendments and remarks made herein into the file history of the present invention. Reconsideration and withdrawal of the rejections set forth in the above-identified Final Office Action is respectfully requested.

Support for new claims

Support for the newly added claims may be found explicitly through out the specification and original claims. Specifically, support may be found, at least, in paragraph 0035 (“Once in the liver such cells ...may differentiate into mature hepatocytes...”) and paragraph 0049, lines 52-55 (“Advantages of employing hepatocyte precursors of the present invention include the provision of a model system for the growth of hepatocyte precursors and/or the differentiation of such hepatocyte precursors into mature hepatocytes.”) Support may also be found in the original claims, at least, at original claims 23, 39 and 41. Applicants thus submit respectfully that the newly added claims are thus supported by the original specification and/or claims and therefore do not represent new matter.

Claim objections

Claim 21 is objected to because the final phrase “and is administered to the subject” is deemed redundant in light of the new claim amendments. Without acquiescing to the propriety of the rejection, Applicants have canceled claimed 21. Accordingly, Applicants respectfully submit that the objection has been rendered moot and respectfully request withdrawal of same rejection.

Claims rejections under 35 U.S.C. § 112, first paragraph

Claims 41 and 42 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to enable

one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. More specifically, the Office Action asserts that “the specification teaches that a clear advantage to the disclosed invention is that the usual requirement of matching the histological markers of various subjects is not needed or required if the disclosed precursor cell is used.” Applicants respectfully traverse this rejection.

Without acquiescing to the propriety of the rejection, Applicants have cancelled claimed 21. Accordingly, Applicants respectfully submit that the objection has been rendered moot and respectfully request withdrawal of same rejection.

Claims 21, 23, 25, 27, 29-36, and 39-43, are also rejected under 35 U.S.C. § 112, first paragraph. The Office Action alleges, in part, that (1) “nowhere in the specification is there detail for the specific methodology for expanding immature cells from any tissue to provide hepatocyte precursor cells,” and that (2) “the specification only provides conditions and methods for isolating the precursor cells in the context of a composition of cells (see, for example, USP 6,146,889) and does not provide any guidance to isolate a population of hepatocyte precursor cells as a starting material.” Applicants respectfully traverse this rejection.

As an initial matter, without acquiescing to the propriety of the rejection, Applicants have canceled all of the rejected claims. Accordingly, Applicants respectfully submit that the objection has been rendered moot and respectfully request withdrawal of same rejection.

The new claims are directed to a method of providing mature hepatocytes to a subject in need thereof comprising parenterally administering to the subject a composition enriched in hepatocyte precursor cells, the composition having been obtained by culturing a population of immature liver cells, including hepatocyte precursor cells capable of differentiating into mature hepatocytes, in a serum-free culture medium, extracellular matrix and liver stromal cells, and in which the hepatocyte precursor cells differentiate into mature hepatocytes *in vivo*. Applicants respectfully submit that the pending claims address each of points for rejection.

Indeed, the new claims recite the administration of a *composition* enriched in hepatocyte precursor cells, the composition having been obtained by culturing a population of immature liver cells, including hepatocyte precursor cells capable of differentiating into mature hepatocytes, in a serum-free culture medium, extracellular matrix and liver stromal cells. As

noted in the record, compositions enriched in hepatocyte precursor cells and methods of obtaining same have been patented (USP Nos. 5576207, 5789246, and 6146889). As well, the Examiner “acknowledges that the capability of a precursor cells [sic] to differentiate into a hepatocyte ‘is a necessary and defining characteristic of a hepatocyte precursor cell.’” See Office Action, page 9, line 3. Taken together, Applicants respectfully submit that the pending claims overcome the § 112, first paragraph, rejections and respectfully request withdrawal of same.

Claim rejections under 35 U.S.C. § 112, second paragraph

Claim 40 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter with Applicants regard as the invention for the reason of record. Applicants respectfully traverse this rejection.

Without acquiescing to the propriety of the rejection, Applicants have cancelled claimed 40. Accordingly, Applicants respectfully submit that the objection has been rendered moot and respectfully request withdrawal of same rejection.

CONCLUSION

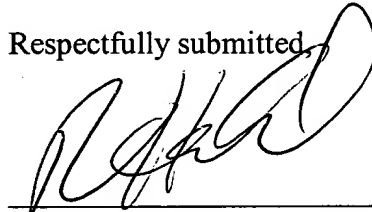
Applicants submit that the application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Final Office Action, and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3500. All correspondence should be directed to our address given below.

AUTHORIZATION

Applicants believe there is no additional fee due in connection with this filing. However, to the extent required, the Commissioner is hereby authorized to charge any fees due in connection with this filing to Deposit Account 50-1710 or credit any overpayment to same.

Respectfully submitted,



Gilberto M. Villacorta, Ph.D.
Registration No. 34,038
Robert W. Hahl, Ph.D.
Registration No. 33,893

Dated: July 25, 2005

Patent Administrator
KATTEN MUCHIN ROSENMAN LLP
525 West Monroe Street
Chicago, Illinois 60661-3693
Facsimile: (312) 902-1061